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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,524	02/12/2004	Masaya Tsunoda	2927-0168P	4127

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EXAMINER
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PASSANITI, SEBASTIANO

ART UNIT	PAPER NUMBER
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3711

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/776,524

Applicant(s)

TSUNODA, MASAYA

Examiner

Sebastiano Passaniti

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**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on see detailed Office action.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.  
4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 5-8 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02/12/2004  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office action is responsive to communication received 04/24/2006 – Election and amendment.

Claims 1-8 remain pending.

Claims 1-4 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 04/24/2006.

Applicant's election with traverse of Group II (claims 5 and 8 along with amended claims 6 and 7) in the reply filed on 04/24/2006 is acknowledged. The traversal is on the ground(s) that no serious burden has been placed upon the examiner to search all of the claims. This is not found persuasive because the restriction requirement clearly sets forth that the claims of Group I and Group II are distinguished by their classification as well as being distinct, one from the other, by noting that a plurality of methods are available through which the final club head product may be produced.

The requirement is still deemed proper and is therefore made FINAL.

Following is an action on the MERITS:

#### ***Claim Rejections - 35 USC § 102 and 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi ('969) in view of Naruo ('425). The patent to Kobayashi discloses the applicant's basic inventive concept and highlights the use of a thinned ball striking face in order to adjust the time that a golf club head comes into contact with a ball during impact there between. Specifically, Kobayashi provides for a thin striking face in lower-numbered clubs, i.e., clubs with longer shaft lengths, so that the time period that a ball is in contact with the striking face increases. Kobayashi provides for a thin striking face material that imparts a high elasticity and further provides that the thickness of the striking plate be in a range of, for example, 2 mm to 5 mm, with the 2 mm thickness being used for clubs having a longer shaft length. The Kobayashi teaching is valid for clubs of both the iron and wood-type, as evidenced by the description in Kobayashi and with reference to Figures 1a through 2c. Kobayashi differs from the claimed invention in that Kobayashi does not detail the specific ratio, as required by claim 5, nor does Kobayashi detail the specific modulus of elasticity detailed by applicant's claim 6, nor does Kobayashi outline the specific method of claims 7 and 8 of the instant application. The teaching to Naruo is introduced to show that it is old in the art to at least partly provide a striking face with a material such as titanium or titanium alloy within the claimed thickness range in order to provide a desirable amount of resiliency to the

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striking face. In fact, Naruo goes into great detail to explain the reasons why a face thickness greater than 0.7 mm and less than 2.7 mm must be used for a low rigidity region on the face, which is constructed of titanium (column 8, lines 12-33). Naruo details the advantages of selecting a specific material and corresponding thickness to provide a region of either low or high rigidity. These observations are provided for both wood-type and iron-type club heads. Moreover, it is noted that insofar as the time periods T1 and T2 of claim 5, it is clear that these time periods and thus the ratio of T2/T1 will ultimately depend upon the material used for the striking face and the thickness of the striking face. Moreover, the applicant has not discovered the materials having the claimed modulus of elasticity (claim 6). In other words, it would appear that the applicant has simply optimized a specific parameter while using known materials and known face thicknesses. Such would not appear to be invention. In view of the patent to Naruo and the above reasoning, it would have been obvious to modify the device in the cited art reference to Kobayashi by selecting a material such as titanium or a titanium alloy known in the art for its resilient nature and high strength and to further provide a face thickness that imparts a desired "springiness" so that the contact time between a golf ball and the striking face may be altered as needed. The time period (T1) is likewise dependent upon the material and thickness of the striking face and thus, for example, in a set of clubs, as is the case in Kobayashi, the ratio of time period of contact to time period to achieve peak value of the vertical force acting on the club face is clearly being tailored through the modification of the face thickness coupled with the use of a resilient material. Therefor, the claimed ratio, specific modulus of elasticity

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and face thicknesses are not deemed critical. Insofar as the requirements of claims 7 and 8 regarding the design of the golf club head in accordance with the claim 1 method, it is noted that these claims are inevitably being treated as product claims. Hence, the method steps do not add any structure to the product claim (claim 5).

Claims 5-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Naruo.

Under §102, Naruo details the use of titanium or titanium alloy with a face thickness of between 0.7 to 2.7 mm in one instance. As the applicant has identified that titanium or its alloys satisfies the requirements for a “soft” material and since there would not appear to be any further structure recited in the claims other than the thickness of the face and the modulus of elasticity of the material used in the striking face portion, Naruo is deemed to anticipate the claimed language relating to the golf club head product. As the requirement for face thickness and face material is met by Naruo, so must the claimed time periods (T1) and (T2) also be anticipated by Naruo. Moreover, since the limitations of claims 7 and 8 appear to hint at a product-by-process approach of detailing the invention, it is noted that these claims are ultimately product claims. In this case, it would appear that the method steps add no further structure that distinguishes over the Naruo device.

Alternatively, under §103, while Naruo does not detail the specific claimed time periods (T1 and T2), such would appear to be mere optimization of known structure. In other words, since the materials used by the applicant are known in the art as are the claimed face thicknesses, the skilled artisan would have found it obvious to alter these

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parameters within the guidelines detailed by Naruo in order to produce a club head with a desirable resiliency. The fact that the applicant requires that the claimed product be produce by a specific series of steps has no further limiting effect in a structure claim. Simply put, claims 7 and 8 are being treated as product claims. See MPEP 2113, reproduced below.

### **2113 [R-1] Product-by-Process Claims**

#### **PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS**

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product.). >The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., In re Garnero, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.)

#### **< ONCE A PRODUCT APPEARING TO BE SUBSTANTIALLY IDENTICAL IS FOUND AND A 35 U.S.C. 102 /103 REJECTION MADE, THE BURDEN SHIFTS TO THE APPLICANT TO SHOW AN UNOBVIOUS DIFFERENCE**

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744,

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180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) (The claims were directed to a zeolite manufactured by mixing together various inorganic materials in solution and heating the resultant gel to form a crystalline metal silicate essentially free of alkali metal. The prior art described a process of making a zeolite which, after ion exchange to remove alkali metal, appeared to be "essentially free of alkali metal." The court upheld the rejection because the applicant had not come forward with any evidence that the prior art was not "essentially free of alkali metal" and therefore a different and unobvious product.). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989) (The prior art disclosed human nerve growth factor (b-NGF) isolated from human placental tissue. The claim was directed to b-NGF produced through genetic engineering techniques. The factor produced seemed to be substantially the same whether isolated from tissue or produced through genetic engineering. While the applicant questioned the purity of the prior art factor, no concrete evidence of an unobvious difference was presented. The Board stated that the dispositive issue is whether the claimed factor exhibits any unexpected properties compared with the factor disclosed by the prior art. The Board further stated that the applicant should have made some comparison between the two factors to establish unexpected properties since the materials appeared to be identical or only slightly different.).

#### **THE USE OF 35 U.S.C. 102 /103 REJECTIONS FOR PRODUCT-BY-PROCESS CLAIMS HAS BEEN APPROVED BY THE COURTS**

"[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith." In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sebastiano Passaniti whose telephone number is 571-



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272-4413. The examiner can normally be reached on Monday through Friday (6:30AM - 3:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eugene L. Kim can be reached on 571-272-4463. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.Passaniti/sp  
July 9, 2006

  
**Sebastiano Passaniti**  
**Primary Examiner**